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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------|
| 09/865,514 | 05/29/2001 | Kazuma Okuda | 010568 | 3133 |
| 23850 | 7590 | 10/02/2003 | | |
| ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006 | | | EXAMINER ELKASSABGI, HEBA | |
| | | | ART UNIT 2834 | PAPER NUMBER |

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,514

Applicant(s)

OKUDA, KAZUMA

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. (J.P. Patent Application 04222436A) and further in view of Harris et al. (U.S. patent 6617715) and Shin et al. (U.S. patent 6396177) and Ito (J.P. Patent Application 59230448A).

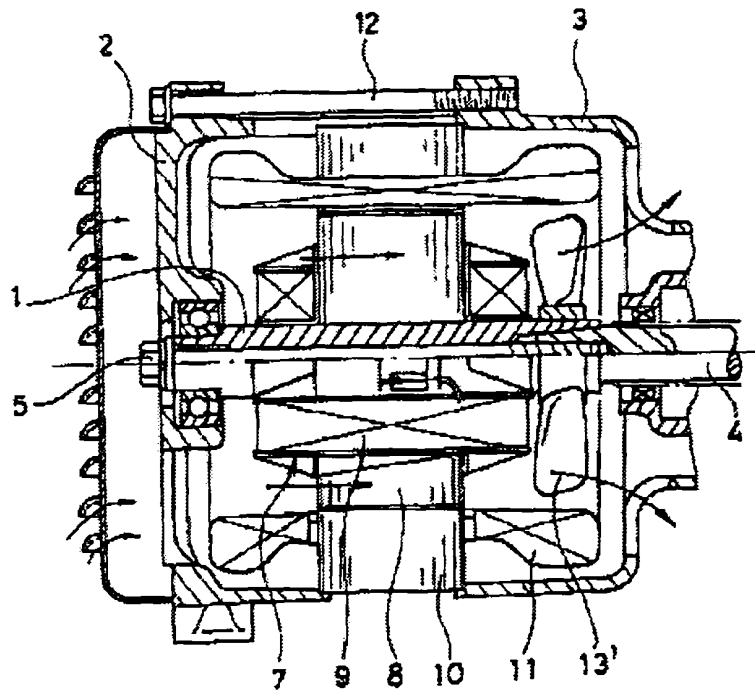
Kusase et al. illustrates a generator motor (100) in Figure 1, that is positioned between a pulley (10) and an engine housing (1) with a pulley (10) fitted over an end part of a crank shaft (2) with the stator yoke (21) positioned to the protruding wall (20) of the engine housing (1). Furthermore, a rotor yoke (16) is secured fixedly on to the inner peripheral face end (14) of the pulley (10), with the rotor yoke (16) facing the stator yoke (21) diagonally from an air gap (A). Additionally, Figure 1 illustrates an air passage (B) that is positioned between engine housing (1) and the peripheral wall edge (C) of the pulley (10). In addition, Kusase et al. illustrates in Figure 4 a recessed space (S). However, Kusase et al. does not illustrate a crank pulley with fan blades positioned on

to the side walls at are extending radially outward from an end of the crank shaft and stator coils cooled from air flowing through the annular space by way of the air passage with the air being discharged through the fan blades.

Harris et al. discloses in Figure #1 a crank pulley of an alternator having a rotor and a stator with cooling fan blades provided on a sidewall of a crank pulley. In which the fan blades of Harris et al. discloses the fan blades facing the engine and facing away from the engine in order to remove heat from the alternator.

Shin et al. Discloses in Figure #4B a brush less motor having a stator (100) and a rotor (200) with fan blades in which the blades are positioned within the frame. The sidewalls of the frame extend radially outwards, in which the blades (517) are facing away from the engine, in order to for a large amount of air to flow through.

Ito illustrates in Figure 4 a generator in which air flows through a stator core (8) with coils (11) and is discharged through the fan blades (13') to the outside of the generator.(as indicated below)



第 4 圖

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kusase et al.'s invention by adding radially extending fan blades from the crankshaft that is positioned onto the pulley in order to enhance the cooling effect. As well as having airflow through the stator core and windings to be discharged through the fan blades to the outside of the generator in order to shorten axial length.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. (J.P. Patent Application 04222436A) and further in view of Harris et al. (U.S. patent 6617715) and Shin et al. (U.S. patent 6396177) and Ito (J.P. Patent Application 59230448A) and Kakinuma et al. (U.S. Patent 6091172).

Kusase et al., Harris et al., Shin et al. and Ito teach all of the limitations of claims 1 and 2 except for the plurality of the stator core and coils with the coils wound around the cores and projecting in a circumferential direction. Kakinuma et al. discloses in Figure 2 a stator (12) with stator cores (14) formed from a plurality of core plates with coils (20) and formed into a T-shape and projecting provided from a distance apart from one another and that the poles are in a circumferential direction with an air passage between the coils (20).

Claim 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusase et al. (J.P. Patent Application 04222436A) and further in view of Harris et al. (U.S. patent 6617715) and Shin et al. (U.S. patent 6396177) and Ito (J.P. Patent Application 59230448A) and Kakinuma et al. (U.S. Patent 6091172) and Kamiyama (J.P. Patent Application 360118036A).

Kusase et al., Harris et al., Shin et al. and Ito teach all of the limitations of claims 1 and 2 except for the plurality of the stator core and coils with the coils wound around

the cores and projecting in a circumferential direction. Kakinuma et al. discloses in Figure 2 a stator (12) with stator cores (14) formed from a plurality of core plates with coils (20) and formed into a T-shape and projecting provided from a distance apart from one another and that the poles are in a circumferential direction with an air passage between the coils (20).

Kamiyama illustrates in Figure 1 a generator in which guide fin (133) acting as a cover for the air gap (A) is projecting from the upper end of the stator coil (12) facing an air inlet passage (B) for effective cooling of the coils.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Kakinuma et al.'s invention by adding a guide fin (133) projecting from the top edge of the stator coil (12) in order to efficiently circulate the cooling air for guiding fluid in order to effectively cool the coils (12).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE

Thomas M. Dougherty
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